REMARKS

Claims 19 and 20 have been cancelled without disclaimer of the subject matter contained therein or prejudice to Applicants' right to file continuing applications directed thereto. Upon entry of this Amendment, claims 1-18, and 21-24 remain pending.

In the Office Action dated January 5, 2006, claims 1, 5, 11, 16-18, and 22-24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (U.S. Patent No. 5,610,683) in view of Hwang et al. (U.S. Patent No. 6,185,085). Applicants respectfully traverse this rejection.

Independent claim 1 recites a lithographic apparatus that includes "an illumination system to provide a beam of radiation on a flat article on an article support in a beam path of said beam of radiation; and an article handler to move said article during placement of said article on, or removal of said article from said article support, said article handler comprising an electrode and a dielectric layer in order to form an electrostatic clamp to electrostatically clamp said article." Applicants respectfully submit that a *prima facie* case of obviousness has not been established by the Examiner, because, as explained below, 1) there is absolutely no motivation to combine Takahashi with Hwang et al, and 2) there is no reasonable expectation that such a combination would be successful. *See* MPEP §2141.

Takahashi teaches the use of an immersion type projection apparatus in which various hands are used to handle cassettes. *See* Takahashi at col. 4, ln. 55 – col. 5, ln. 35; FIG. 1. Each cassette includes an optical element on a top side, a wafer on a bottom side, and liquid in between the optical element and wafer. *See* Takahashi at col. 5, lns. 6-20; FIG. 2. Takahashi also teaches the use of various mechanical hands for handling the cassettes during different stages of processing. *See* Takahashi at col. 5, ln. 63 – col. 6, ln. 21. Takahashi does not disclose or suggest that any of the hands have an electrode and a dielectric layer in order to form an electrostatic clamp to electrostaticaly clamp the cassette to the respective hand.

Although Hwang et al. teaches the use of an electrostatic arm to transport a semiconductor wafer, *see* Hwang et al. at abstract, there is absolutely no teaching in Hwang et al that such an electrostatic arm may be used to transport a cassette that not only includes a wafer, by an optical element and liquid as well. The hand configuration of Takahashi is needed to allow the unloading an loading of the cassettes from and to a cassette stock. There is absolutely no motivation to turn the hands of Takahashi into the electrostatic arms of Hwang et al. Moreover, there is no reasonable expectation of success that such an arrangement would work, given the fact that the cassettes of Takahashi will have a much

greater weight than the wafers of Hwang et al., and that the arm would have to somehow be reconfigured to have the ability to grasp a cassette out of a cassette stock.

Hindsight is impermissibly being used to piece together references to meet the features of claim 1. However, when looking at Takahashi and Hwang et al. without the benefit of Applicants' disclosure, it is clear that 1) there is no motivation to combine these two references, and 2) there is no reasonable expectation that such a combination would be successful. As such, Applicants respectfully submit that a *prima facie* case of obviousness has not been made by the Examiner, and respectfully request that the rejection to claim 1 and claims 5, 11, and 16-18 that depend from claim 1 be withdrawn.

Independent claim 22 recites a lithographic apparatus that includes "an illumination system that provides a beam of radiation to an article; a support that supports the article; an article handler configured to move the article during placement of the article on, and removal of the article from, the support; and an electrostatic clamp configured to clamp the article to the article handler, the electrostatic clamp comprising an electrode and a dielectric layer."

Takahashi and Hwang et al. are discussed above. Because there is absolutely no motivation to combine Takahashi and Hwang et al. and no reasonable expectation of success, Applicants respectfully submit that a *prima facie* case of obviousness has not been made by the Examiner, and respectfully request that the rejection to claim 22 and claims 23 and 24 that depend from claim 22 be withdrawn.

In the Office Action, claims 4 and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Huang et al. in view of Blake et al. (U.S. Patent No. 5,436,790). Applicants respectfully traverse this rejection.

Claim 4 depends from claim 1 and adds the feature of "a presence detector to detect a presence of said article through a measured capacity formed by said electrode, said dielectric layer, and said article to be handled."

As discussed above, claim 1 is patentable over Takahashi in view of Huang et al. because a *prima facie* case of obviousness has not been made by the Examiner. Blake et al. teaches the use of an electrostatic clamp to clamp a silicon wafer to a wafer support in an ion implantation device. *See* Blake et al. at col. 1, lns. 31-43; col. 4, lns. 51-66. Blake et al. does not even disclose an article handler to move the article during placement of the article on, or removal of the article from the article support, as recited by claim 1, and hence claim 4. Moreover, Blake et al. does not disclose or remotely suggest that the wafer support disclosed therein may be modified for use in an article handler. A *prima facie* case of obviousness has

not been made by the Examiner. As such, Applicants respectfully submit that claim 4 is patentable over Takahashi in view of Hwang et al. in view of Blake et al., and respectfully request that the rejection to claim 4 be withdrawn.

Independent claim 21 recites a device manufacturing method that includes, *inter alia*, handling a substrate by an article handler provided with an electrostatic clamp, detecting a presence of the substrate by detecting a capacity formed by the electrostatic clamp and the substrate, and projecting, after detecting the presence of the substrate, the patterned beam of radiation onto a target portion of the substrate.

Takahashi, Hwang et al., and Blake et al. are discussed above. A *prima facie* case of obviousness has not be made by the Examiner, because – absent Applicants' disclosure - there is absolutely no motivation to combine these three references, nor is there any reasonable expectation that such a combination would be successful. As discussed above, there is no motivation to replace the hands of Takahashi that handle cassettes with liquid contained therein with an electrostatic arm of Hwang et al. Likewise, there is no motivation to replace the hands of Takahashi with the electrostatic clamp for an wafer support in an ion implantation device of Blake et al., or expectation that such a replacement would be successful. As such, Applicants respectfully submit that claim 21 is patentable over Takahashi in view of Hwang et al. in view of Blake et al., and respectfully request that the rejection to claim 21 be withdrawn.

In the Office Action, claims 2, 3, 6-10, and 12-15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Huang et al. in view of Kitabayashi et al. (U.S. Patent No. 5,530,616). Applicants respectfully traverse this rejection.

Claims 2, 3, 6-10, and 12-15 depend from claim 1. As discussed above, claim 1 is patentable over Takahashi in view of Huang et al. In addition, there is absolutely no motivation to replace the hands of Takahashi with the electrostatic chuck of Kitabayashi et al.

Kitabayashi et al. discloses the use of an electrostatic chuck to clamp a wafer in a low pressure environment. *See* Kitabayashi et al. at col. 1, ln. 5 – col. 2, ln. 56. There is simply no motivation to combine the electrostatic chuck suitable for clamping a wafer in a low pressure environment of Kitabayashi et al. with the article handlers of Takahashi that are suitable for handling cassettes that include a liquid. Moreover, there is no reasonable expectation that replacing the hands of Takahashi with the electrostatic clamp of Kitabayashi et al. (or Hwang et al, as discussed above) would be successful. As such, Applicants respectfully submit that claim 1 and the claims that depend from claim 1 are patentable over

Takahashi in view of Huang et al. in view of Kitabayashi et al., and respectfully request that the rejection to claims 2, 3, 6-10, and 12-15, which depend from claim 1, be withdrawn.

All rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited. If any point remains at issue which the Examiner feels may best be resolved through a personal or telephone interview, please contact the undersigned at the telephone number below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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